



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/736,329

12/16/2003

Harue Nakashima

740756-2685

3698

22204

7590

12/28/2006

NIXON PEABODY, LLP

401 9TH STREET, NW

SUITE 900

WASHINGTON, DC 20004-2128

EXAMINER

LIN, JAMES

ART UNIT

PAPER NUMBER

1762

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

12/28/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/736,329	NAKASHIMA ET AL.	
	Examiner	Art Unit	
	Jimmy Lin	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☒ This action is **FINAL**: 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-31 is/are pending in the application.
- 4a) Of the above claim(s) 24,25,27 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-23,26 and 29-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 19-23, 26, and 29-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 19 and 26 have been amended such that the organic compound is no longer limited to forming the electroluminescent layer. There is no evidence that the Applicant had possession and had presented written disclosure fairly indicating that the Applicant intended to claim the use of the organic compound to form the genus of all possible layers on an EL device.

There is no support for co-depositing an organic compound and a metal salt onto an anode or cathode in the method of forming any layer in an EL device, other than the electroluminescent layer.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 19-23, 26, and 29-31 (claims 29-30 as dependant from 26) are rejected under 35 U.S.C. 103(a) as being unpatentable over Heuer et al. (U.S. Patent 6,316,130) in view of WO 00/32719 (hereafter '719).

Art Unit: 1762

Heuer discloses a method of manufacturing a EL device comprising an anode, cathode, and an EL layer between wherein the EL layer comprises an organic compound (such as compound IIIF of column 16) and a metal salt, such as aluminum chloride (Example 1, 2). Heuer discloses supplying the organic compound and aluminum chloride are first processed in a reactor to form an organometallic complex.

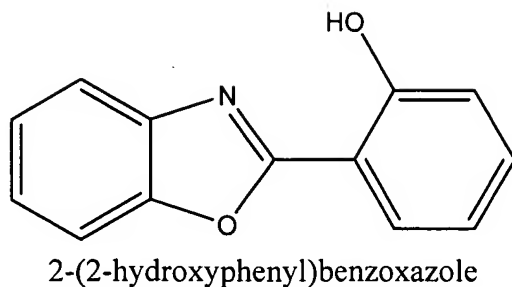
Heuer does not explicitly disclose the elected species, however the organic compound is disclosed as having aryl substituent and Heuer even exemplifies aryl in formula B6 column 17. Therefore it would have been obvious to one of ordinary skill in the art to have selected the elected formula with a reasonable expectation of success because Heuer clearly discloses an organic compound encompassing the claimed compound.

Heuer discloses forming the organometallic complex in solution prior to depositing on the substrate, but does not explicitly teach that the organic compound and the metal salt can be co-deposited over an anode or electrode. However, '719 discloses an improved method for forming a film of an organic metal complex by codepositing the metal salt and the organic complex on the substrate surface to form a organometallic complex (abstract, page 2). '719 teaches that the co-deposition method does not require multiple syntheses steps while forming an EL layer with improved performance (abstract, page 2). Therefore it would have been obvious to one of ordinary skill in the art to vaporize both the metal salt and the organic compound and deposit them simultaneously on the substrate to reap the benefits as taught by '719 with a reasonable expectation of success.

Claim 29-31: Heuer discloses aluminum chloride and gallium chloride as suitable metal salts (examples).

5. Claim 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 40-9328679 (hereafter '679) in view of WO 00/32719 (hereafter '719).

'679 discloses a method for manufacturing an EL device comprising an anode, a cathode, and an organic EL layer formed therebetween, wherein the EL material is made from 2-(2-hydroxyphenyl)benzoxazole and zinc acetate (abstract, [0031]). The 2-(2-hydroxyphenyl)benzoxazole contains a hydroxyl group and a azomethine group.



'679 does not explicitly teach that the organic material and the zinc acetate are co-deposited onto an anode or cathode. However, such is obvious over '719 for substantially the same reasons discussed above.

Response to Arguments

6. Applicant's arguments filed 11/13/2006 have been fully considered but they are not persuasive.

Claims 19-23 as rejected over JP 40-9328679:

The Applicant notes that it is not known whether the examiner considered '679 in the Japanese document or in the English translation. The Examiner hereby states that all references made to any document will be referred to the English version/translation.

The Applicant notes that the teaching of supplying the organic compound and zinc acetate sequentially cannot be found in the abstract and [0031]. However, the rejection is based on supplying the organic compound and zinc acetate into a reactor. Because the originally submitted claims did not positively recite any substrate to which the materials are to be co-deposited, the claims were interpreted to be open to co-depositing onto any sort of substrate, such as a reactor wall. Thus, the organic compound and zinc acetate are added into a reactor sequentially, thereby co-depositing onto the reactor wall. The Applicants have amended the claims to positively recite co-depositing onto an anode or cathode, and the rejection has been modified accordingly.

Claim 19-23, 26, and 29-30 as rejected over Heuer '130 in view of '719:

The Applicant argues that '719 fails to teach or suggest the use of an organic compound including a hydroxyl group to form the organometallic compound as disclosed by Heuer. The Applicant further argues that it is improper to substitute the organic compound coordinated with the metal element in Heuer for the organic complex described in '719 because the organometallic compound disclosed by Heuer is distinctly different from the organometallic compound as disclosed by '719. However, '719 is merely used to teach the method of co-depositing an organic compound and a metal salt. '719 teaches that co-depositing to form the EL layer is advantageous over the deposition method in which the solid organometallic material is vapor deposited (pg. 2, lines 11-17) (i.e., the deposition method used in Heuer). One would have been motivated to have used the co-deposition method for the reasons stated in the rejection above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Lin whose telephone number is 571-272-8902. The examiner can normally be reached on Monday thru Friday 8AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JL
JL


KEITH HENDRICKS
PRIMARY EXAMINER